

AMENDMENTS TO THE SPECIFICATION**IN THE SPECIFICATION:****Page 2**

Please amend the Specification on page 2 beginning at line 4 as follows:

Such characteristics of IGBT elements of different generations are discussed in non-patent documents 1 to 3, for instance, and the ~~turn-on~~ losses in an IGBT element based on the turn-on losses and a saturation voltage across a collector and an emitter are discussed in non-patent document 4. Patent document 1 discloses a technique for controlling a motor used in an air conditioner or a cooling device. Patent document 2 discloses a technique for modularizing an inverter unit and a converter unit.

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Please amend the Specification on page 4 beginning at line 24 as follows:

———The switching element is an IGBT element, for example. In the step (b), an increment (ΔE_{sw}) of turn-on losses in rated current value of the IGBT element having the second breakdown voltage with reference to turn-on losses (EL) in rated current value of the IGBT element having the first breakdown voltage is defined as a divisor, the product of a first value, a second value, and a third value is defined as a dividend, the first value ($V_L - \Delta V_{ce}$) being obtained by subtracting an increment (ΔV_{ce}) of a saturation voltage of the IGBT element having the second breakdown voltage with reference to a saturation voltage (V_L) of the IGBT element

having the first breakdown voltage from the saturation voltage (V_L), the second value (I_{cp}) being voltage, a maximum value (I_{ep}) of an output current of the inverter in terms of sinusoidal wave, and the third value being ($\pi / 16$), is defined as a dividend. The IGBT element having the second breakdown voltage is selected in an area with a lower switching frequency (f_{sw}) of the inverter than the result obtained by dividing the dividend by the divisor. _____

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Please amend the Specification on page 10 beginning at line 2 as follows:

Further in consideration of static losses P_D in a free wheeling diode typically added to an IGBT element, losses P_A in the whole IGBT element are expressed by Equation (4). The static losses P_D in the free wheeling diode are expressed by Equation (5), where a forward voltage drop V_{ec} V_{EC} with the current flow of the maximum value I_{cp} is introduced.

Please amend the Specification on page 10 beginning at line 15 as follows:

It has been known experimentally that the turn-on switching losses $E_{sw(on)}$ and turn-off switching losses $E_{sw(off)}$ are almost the same, and that the saturation voltage $V_{ce(sat)}$ across a collector and an emitter of the IGBT element and the forward voltage drop V_{ec} V_{EC} of the free wheeling diode are almost the same. Thus, Equation (4) can be expressed as Equation (6).

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Please amend the Specification on page 11 beginning at line 12 as follows:

The dynamic losses in IGBT as expressed by the first term on the right side of Equation (6) are independent of the rated voltage of a load. On the other hand, the static losses in IGBT as expressed by the second term on the right side of Equation (6) depend on the rated voltage of a load. More specifically, when loads are required of the same amounts of work, the current value I_{cp} is inversely proportional to the rated voltages of the loads, and thus the static losses are also inversely proportional to the rated voltages of the loads.

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Please amend the Specification on page 18 beginning at line 2 as follows:

Likewise, a fifth-generation 1200 V IGBT element Z2 has turn-on losses $E_{sw(on)}$ of 1.10 mJ/pulse, and a difference from the turn-on losses in a 600 V IGBT element Q3 of the same generation is almost 0.1 mJ/pulse. A difference in turn-on losses between the IGBT element Z2 and a 600 V IGBT element Q4 of the same generation is almost 0.56 mJ/pulse. Fig. 4 concerning the IGBT element Q3 shows that the losses are smaller in the IGBT element having a breakdown voltage of 1200 V when an increment ΔE_{sw} of turn-on losses is almost 0.2 mJ/pulse or less and the switching frequency f_{sw} is 7 kHz. Fig. 5 concerning the IGBT element Q4 shows that the losses are smaller in the IGBT element having a breakdown voltage of 1200 V when an increment ΔE_{sw} of turn-on losses is 0.80 mJ/pulse or less and the switching frequency f_{sw} is 7 kHz.

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Please amend the Specification on page 22 beginning at line 2 as follows:

The present invention is applicable not only when a single-phase AC power supply is employed, but when a three-phase AC power supply is employed. Fig. 8 is a circuit diagram illustrating the configuration of a three-phase voltage doubler circuit. When compared with the circuit shown in Fig. 7, the single-phase AC power supply 1 and is replaced with a three-phase AC power supply 13, and the diode bridge 22 is replaced with a diode bridge 23. The diode bridge 23 includes three capacitors for performing voltage doubler rectification. Again in this case, a DC voltage subjected to voltage doubler rectification is supplied to the inverter 42 via the smoothing circuit 32. Therefore, the aforementioned effects can be obtained by applying the present invention to form the inverter 42 with high-breakdown-voltage elements.